# DEPARTMENT of ENVIRONMENTAL SERVICES Water Supply & Pollution Control Division - Biology Bureau

### LAKE TROPHIC DATA

#### MORPHOMETRIC:

Lake: LONG POND	Lake Area (ha):	36.18
Town: DANVILLE	Maximum depth (m):	3.9
County: Rockingham	Mean depth (m):	1.6
River Basin: Merrimack	Volume (m³): 5	66000
Latitude: 42°55'12" N	Relative depth:	0.6
Longitude: 71°05'55" W	Shore configuration:	1.22
Elevation (ft): 144	Areal water load (m/yr):	13.04
Shore length (m): 2600	Flushing rate (yr <sup>-1</sup> ):	8.30
Watershed area (ha): 1036.0	P retention coeff.:	0.52
<pre>% watershed ponded: &lt; 0.10</pre>	Lake type: natural	w/dam

BIOLOGICAL:	11 January 1996	31 August 1995
DOM. PHYTOPLANKTON (% TOTAL) #1	ASTERIONELLA 55%	DINOBRYON 55%
#2	THIN FILA. BL-GR 25%	ASTERIONELLA 20%
#3		RHIZOSOLENIA 15%
PHYTOPLANKTON ABUNDANCE (units/mL)		
CHLOROPHYLL-A (µg/L)		4.41
DOM. ZOOPLANKTON (% TOTAL) #1	NO DOMINANTS	KERATELLA 35%
#2		VORTICELLA 15%
#3		NAUPLIUS LARVA 12%
ROTIFERS/LITER	8	225
MICROCRUSTACEA/LITER	8	180
ZOOPLANKTON ABUNDANCE (#/L)	21	511
VASCULAR PLANT ABUNDANCE		Common/Abun
SECCHI DISK TRANSPARENCY (m)		2.6
BOTTOM DISSOLVED OXYGEN (mg/L)	3.3	7.7
BACTERIA (E. coli, #/100 ml) #1		2
#2		49
#3		

# SUMMER THERMAL STRATIFICATION:

### not stratified

Depth of thermocline (m): None Hypolimnion volume  $(m^3)$ : None Anoxic volume  $(m^3)$ : None

CHEMICAL:			LONG PONI	)	
	11 January 1996		31 August 1995		
DEPTH (m)	1.0	3.0	1.0		2.5
pH (units)	5.6	5.8	7.1		6.9
A.N.C. (Alkalinity)	7.7	8.0	8.1		7.7
NITRATE NITROGEN	< 0.10	< 0.10	< 0.10		< 0.10
TOTAL KJELDAHL NITROGEN	0.38	0.47	0.47		0.44
TOTAL PHOSPHORUS	0.006	0.009	0.013		0.012
CONDUCTIVITY (µmhos/cm)	126.7	129.2	105.8		106.5
APPARENT COLOR (cpu)	90	90	60		65
MAGNESIUM			1.32		
CALCIUM			5.3		
SODIUM			12.0		
POTASSIUM			1.15		
CHLORIDE	23	24	24		24
SULFATE	13	13	5		5
TN : TP	63	52	36		37
CALCITE SATURATION INDEX			2.6		

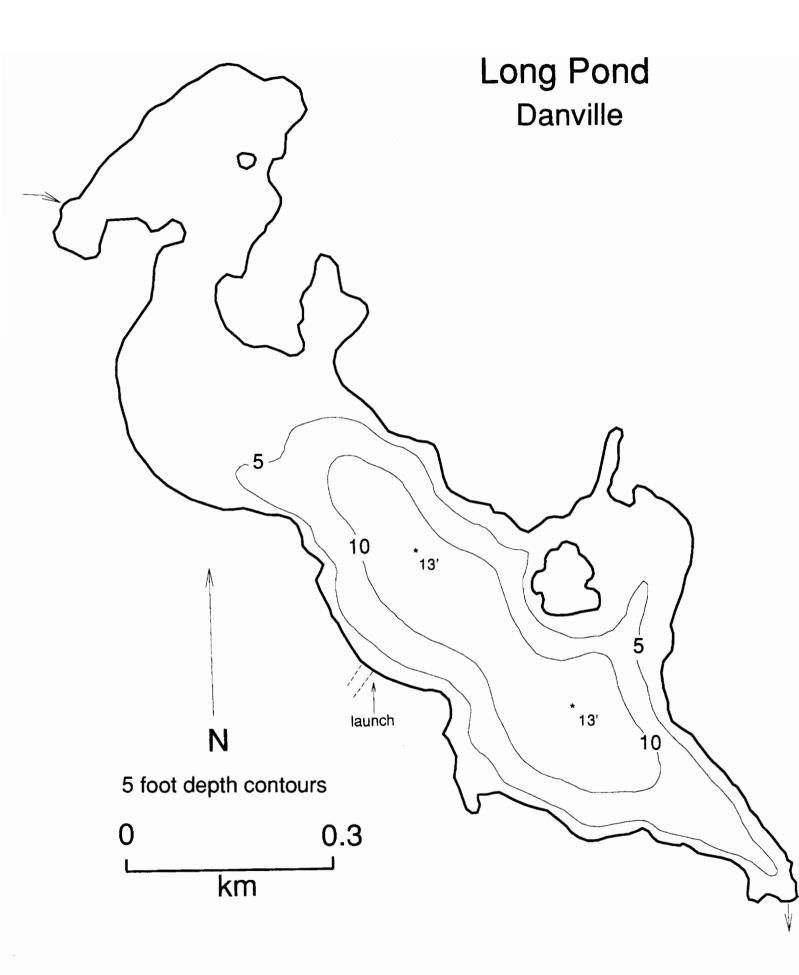
All results in mg/L unless indicated otherwise

## TROPHIC CLASSIFICATION: 1995

D.C	).	s.D.	PLANT	CHL	TOTAL	CLASS
	*	3	4	1	8	Meso.

## **COMMENTS:**

- 1. This pond was previously surveyed and classified in 1982. It was rated eutrophic in 1982, primarily because of a dissolved oxygen depletion in the bottom waters. Water clarity was significantly better in 1995 (8.5 feet versus 3 feet).
- 2. This is a dark tea-colored pond with extensive wetland areas along much of its shore, particularly the northern end.
- 3. Sodium and chloride levels suggest salt runoff into the pond.
- 4. A small, rough public boat launch area was present.



#### FIELD DATA SHEET

LAKE: LONG POND

DATE: 08/31/95

TOWN: DANVILLE
WEATHER: SUNNY & CALM

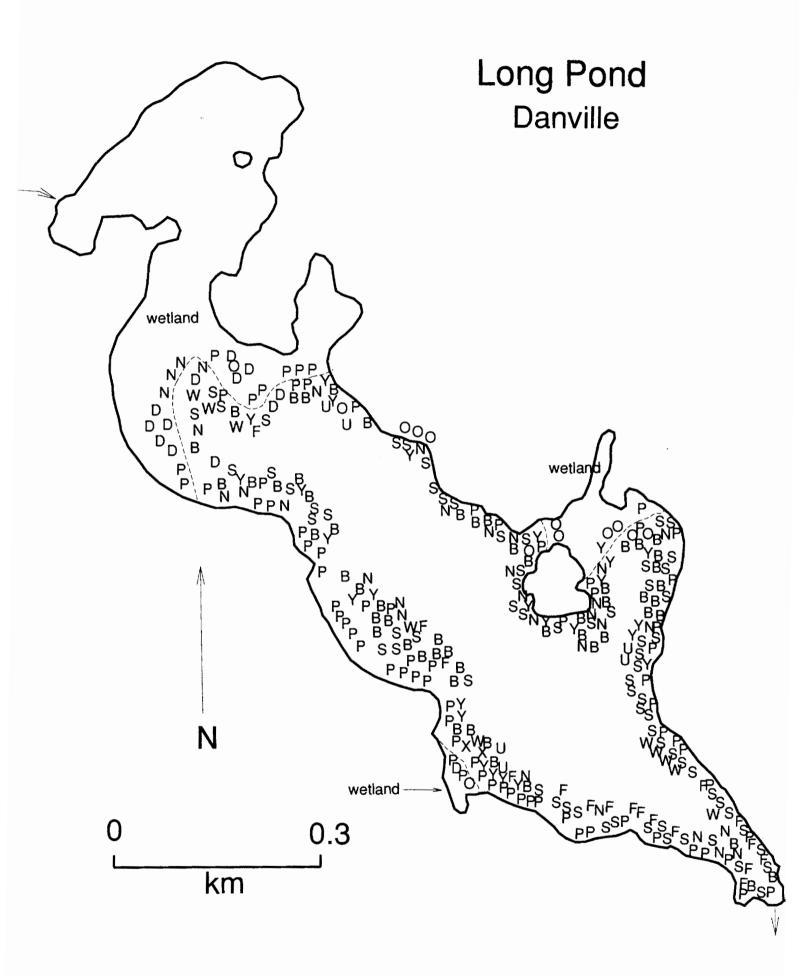
DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
0.1	22.0	8.1	92 %
1.0	21.8	8.1	91 %
2.0	21.0	8.0	90 %
3.0	20.9	8.0	88 %
3.5	20.5	7.7	84 %
White Man			
			,

SECCHI DISK (m): 2.6 COMMENTS:

BOTTOM DEPTH (m): 3.8

TIME: 1200

\*Dissolved oxygen values are in mg/L



## AQUATIC PLANT SURVEY

LAKE: LONG POND TOWN: DANVILLE DATE: 08/31/95

LAK	E: LONG POND	TOWN: DANVILLE	DATE: 08/31/99	
Key	PLAN	PLANT NAME		
vel	GENERIC	ABUNDANCE		
P	Pontederia cordata	Pickerelweed	Common	
N	Nymphaea	White water lily	Scat/Common	
Y	Nuphar	Yellow water lily	Common	
В	Brasenia schreberi	Water shield	Common	
S	Sparganium	Bur reed	Common/Abun	
F	Nymphoides cordatum	Floating heart	Scattered	
W	Potamogeton	Pondweed	Scattered	
U	Utricularia	Bladderwort	Sparse	
0	Cephalanthus occidentalis	Buttonbush	Scattered	
D	Decodon verticillatus	Swamp loosestrife	Scattered	
Х		Sterile thread-like leaf	Scattered	
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OVERALL ABUNDANCE: Common/Abun

## **GENERAL OBSERVATIONS:**

1. The abundance rating does not include the wetland areas; the rating would be very abundant if the wetlands were included.